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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/549,588 | RUG ET AL. | |
| | Examiner | Art Unit | |
| | Kenan Cehic | 2616 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *22 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 September 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/19/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because "Said" in line 3, "means" in line 5, ".

Correction is required. See MPEP § 608.01(b).

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### *Drawings*

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 1, 10, 20, 11,21, 12, 22, 10b, 20b, 13, 23, 20d, (Figure 4 is not labeled). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "phase locked loop" for claim 1, "one receiver per communication path, preferably an optical receiver" in claim 8, "decoupling unit per communication path, preferably a light-emitting diode with a trigger circuit" in claim 9, "means of edge detection" in claim 13, "control motors" in claim 19, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

***Claim Objections***

6. Claim 1-19 are objected to because of the following informalities:

For claim 5, the full written meaning needs to the given for the term "HDLC" in line 3.

For claim 14, the claim limitation "a participant" seems to refer back to claim 1 line 1 "participant. If this is true it is suggested to applicant to change this to –said participant--

Claims 2-19 are objected since they depend on objected claims.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 1-19 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 1, claim limitations " delivered to the second communication path (20), the delivery to the first activatable coupling in the participant (1) being located downstream in the signal travel direction of the processing unit (2 1) of the second communication path (20)" are not clear. It is not clear what the applicant is describing. Further it is not clear which delivery applicant is describing nor the location is clear.

Claims 2-19 are rejected since they depend on rejected claims.

8. Claim 1-19 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 1, the claim limitation "the input signal" has not antecedent basis. Similar problems exist in claim 13 line 2.

Claims 2-19 are rejected since they depend on rejected claims.

9. Claim 1-19 recites the limitations " the processing unit" in line 16 and 19 and "the received information signal" in line 21. There is insufficient antecedent basis for this limitation in the claim.

It is not know which processing unit and received information signal the applicant is referring to.

Claims 2-19 are rejected since they depend on rejected claims.

10. Claim 8 recites the limitation "the communication path" in line 3-4. There is insufficient antecedent basis for this limitation in the claim.

It is not know which communication path the applicant is referring to.

11. Claim 15-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The meets and bounds of the claim 15 are not meet.

Claim 16-19 are rejected because they depend on a rejected claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claim 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karbowiak et al. ( US 4,663,748) in view of Lida et al (US 2006/0153116).

For claim 1, Karbowiak discloses a participant (1) (see Figure 1, "NODE" ,11,12,13) of a communication system (see column 2 lines 16-18 "communication system"),

having a first communication path (10) (see Figure 1, 15) and a second communication path (20) (see Figure 1, 14), the communication paths (see Figure 1, 14 and 15) in the communication system see column 2 lines 16-18 "communication system") preferably with a double-ring topology (see Figure 1, 11, 14, 15) that operates in contrary directions (see Figure 1, 14 and 15, note arrows),

and the participant (1) (see Figure 1, "NODE", 11,12,13) furthermore includes a first processing unit (1 1) (see Figure 17 , 91, 92, 93, 12) for processing (see column 28 lines 14-18 "performs the functions of the RXM..TXM...RRM" and column 28 lines 34-47 "Clock Decoder...clocking information which is used to synchronise the PLL") information signals (see column 28 lines 25-30 "up-ring link-signal") , obtained (see column 28 lines 25-30 "Receive Data") via the first communication path (lo) (see Figure

17, 15b) , andlor for generating (see column 28 lines 25-30 "generate") and sending (see column 28 lines 30-33 "down-ring signals are in turn interfaced to ...15a") information signals (see column 28 lines 25-30 "down-ring link-signal") via the first communication path (see Figure 17, 15a), and a second processing unit (21) (see Figure 17 , 91, 92, 93, 12), for processing processing (see column 28 lines 14-18 "performs the functions of the RXM..TXM...RRM" and column 28 lines 34-47 "Clock Decoder...clocking information which is used to synchronise the PLL") information signals (see column 28 lines 25-30 "up-ring link-signal") received (see column 28 lines 25-30 "Receive Data") via the second communication path (see Figure 17b, 14a)

(20) and/or for generating (see column 28 lines 25-30 "generate") and sending (see column 28 lines 30-33 "down-ring signals are in turn interfaced to ...14b") information signals (see column 28 lines 25-30 "down-ring link-signal") via the second communication path (see Figure 17, 14b), and furthermore, a first activatable coupling (see Figure 17, 94 and Figure 20, 122, "LINE SIGNAL from NODE" and line connecting 122 to 124) is located in the participant (see Figure 17, 94, "Liu 11" and Figure 1, "NODE " and 11) between (see Figure 17, 94 and Figure 20, 122, "UP-RING", 123, "LINE TO SIGNAL", "LINE SIGNAL and column 28 lines 62-66 "multiplexors.. 122 are controlled by the NIU...allow selection of...14a, 15a, 14b, 15b either the node or the other link-pair"), the first communication path (10) (see Figure 1, 15 and Figure 20, 15a, 15) and the second communication path (20) (see Figure 1, 14 and Figure 20, 14a, 14b), such

that upon activation (column 28 lines 62-66 "multiplexors.. 122 are controlled by the NIU...allow selection of...14a, 15a, 14b, 15b either the node or the other link-pair") of the first activatable coupling (see Figure 17, 94 and Figure 20, 122, "LINE SIGNAL from NODE" and line connecting 122 to 124) information signals (see column 4 lines 65-68 "data flow") are picked up (see column 4 line 65 through column 5 line 1 "reconfigures its link connections and Figure 2; 10 (top of circle), 14, 15 and "DATA FLOW") from the first communication path (10) (see Figure 2, 15) and delivered (see Figure 2, 10 (top of circle), data flow is wrapped around from 15 to 14, because of failed link) to the second communication path (see Figure 2, 14) the delivery (see column 28 lines 62-66 "multiplexors.. 122 are controlled by the NIU...allow selection of...14a, 15a, 14b, 15b either the node or the other link-pair") to the first activatable coupling (see Figure 17, 94 and Figure 20, 122, "LINE SIGNAL from NODE" and line connecting 122 to 124) in the participant (1) (see Figure 1, "NODE" ,11,12,13) being located downstream (see Figure 20, 122 and "LINE SIGNAL from NODE" and Figure 17, 95; the multiplexor is downstream from the processing unit) in the signal travel direction (see Figure 20, 122 and "LINE SIGNAL from NODE" and Figure 17, 95) of the processing unit (2 1) (see Figure 17 , 91, 92, 93, 12) of the second communication path (20) (see Figure 20, 14b and Figure 17, 14b), wherein the processing unit (1 l,21) (see Figure 17 , 91, 92, 93, 12) checks the input signal (see column 4 lines 65-67 "synchronization signals") for its presence (see column 4 lines 65-67 "detect a loss of synchronization signals"), and one phase locked loop (see Figure 18, 107 and column 18 lines 19-23 "phase locked loops") is provided (see Figure 17 , 92) in the participant (1) (see Figure

1, "NODE" ,11,12,13) for phase preparation (see column 18 lines 39-44 "PLLs...absorb phase jitter" and column 19 lines 5-9 "PLL...maintain a stead-state phase error which will absorb ") of the received information signal (see Figure 17; 96 and Figure 18, "LINE SIGNAL").

For claim 2, Karbowiak discloses wherein the pickup of the first activatable coupling (see Figure 17; 94 and Figure 20; 122) is located in the participant (see Figure 1, "NODE" ,11,12,13) downstream (see Figure 20, 122 and "LINE SIGNAL from NODE" and Figure 17, 95; the multiplexor is downstream from the processing unit) in the signal travel direction (see Figure 20, 122 and "LINE SIGNAL from NODE" and Figure 17, 95) of the processing unit (1 1) (see Figure 17 , 91, 92, 93, 12) of the first communication path (1 0) (see Figure 20, 15 and Figure 17, 15b and column 28 lines 62-66 "multiplexors.. 122 are controlled by the NIU...allow selection of...14a, 15a, 14b, 15b either the node or the other link-pair") .

For claim 3, Karbowiak discloses wherein the first activatable coupling (see Figure 17, 94 and Figure 20, 122, "LINE SIGNAL from NODE" and line connecting 122 to 124) includes a first intermediate connecting line (13) (see Figure 20, "LINE SIGNAL from NODE"), for connecting (see Figure 2, 10 (top of ring), 15, 14; path 15 is wrapped to path 14 and column 28 lines 62-66 "multiplexors.. 122 are controlled by the NIU...allow selection of...14a, 15a, 14b, 15b either the node or the other link-pair") the first

communication path (10) (see Figure 20; 15) to the second communication path (20) (see Figure 20, 14b),

and a first switchover element (22) (see Figure 20, 122), inserted into both (see Figure 20, 122; 122 is connected to both 14b and signal from node which can be any input/output of 14a, 14b,15, 15a of Figure 20) the first intermediate connecting line (see Figure 20, "LINE SIGNAL from NODE") and the second communication path (20) (see Figure 20, 14b).

For claim 4, wherein the first switchover element (22) (See Figure 20, 122) is a multiplex (see column 28 lines 60-64 "multiplexors...122) with two inputs (see column 28 lines 60-64 "two-input") and one output (see Figure 17, 14b, 126 and 122) and the inputs (see Figure 20, 14a and "LINE SIGNAL from NODE") are switchable selectively to the output (see column 28 lines 57-66 "allow selection of the source of the signal transmitted").

Karbowiak is silent about:

As regarding claim 1, one phase locked loop per communication path.

Lida et al from the same or similar field of endeavor discloses and interface with the following features:

As regarding claim 1, Lida discloses one phase locked loop (see section 0158 lines 11-12 " PLL") per communication path (see section 0158 lines 11-12 "per channel").

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Karbowiak et al. by using the features, as taught by Lida et al, in order to "detect and correct an error in a word received in a data receiver (see section 0011).

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karbowiak et al. ( US 4,663,748) in view of Lida et al (US 2006/0153116) as applied to claim 1, further in view of Hamada et al (US 4,530, 085).

For claim 5, the claimed invention is described as in paragraph 12. Additionally, Karbowiak et al and Lida et al disclose the first (see Figure 17 , 91, 92, 93, 12) and second processing units (see Figure 17 , 91, 92, 93, 12).

For claim 5, Karbowiak et al and Lida et al are silent about:

As regarding claim 5, Hamada discloses wherein a processing unit is microprocessor system for protocol processing, preferably for HDLC processing.

Hamada et al from the same or similar field of endeavor discloses a reconfiguration control for a loop network with the following features:

As regarding claim 5, wherin a processing unit (see Figure 3, MC100) is a microprocessor system (see column 3 lines 20 "microcomputer") for protocol processing (see column 3 lines 24-25 "HDLC") , preferably for HDLC processing (see column 3 lines 24-25 "HDLC").

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Karbowiak et al. and Lida et al by using the features, as taught by Hamada et al, in order search for a trouble point on the loop (see column 2 lines 17-24).

14. Claim 1, 6-8,10,11,15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uzun (US 7,142,504) in view of over Karbowiak et al. ( US 4,663,748) and Lida et al (US 2006/0153116).

For claim 1, Uzun discloses a participant (1) (see Figure 3, 132) of a communication system (see Figure 2a, 101), having a first communication path (10) (see Figure 2a, 146) and a second communication path (20) (see Figure 2a, 126), the communication paths (see Figure 2a, 146 and 126) in the communication system (see Figure 2a, 101), preferably with a double-ring topology (see Figure 2a, 146 and 126) that operates in contrary directions (see Figure 2a, 146 and 126, note arrows),
and the participant (1) (see Figure 3, 132) furthermore includes a first processing unit (see Figure 3,250, 210,220) for processing (see column 6 lines 18-25 "use the destination information in the packet header to determine if the packet is destined for the host...or destined for the outer ring 146. Local traffic may be forwarded to the host via output 273") information signals (see column 6 lines 14-116 "data"), obtained via the first communication path (see column 6 lines 14-16 "data...along transmission medium 140 of outer ring 146") (lo), and/or for generating (see column 7 lines 16-19 "SRPF block...traffic stored in SRAM 225"; SRAM produces data to SRPF)

and sending (see column 8 lines 34-37 "SRAMS 220 servicing the outer ring 146") information signals (see column 7 lines 16-19 "transit traffic") via the first communication path (see column 8 lines 34-37 "SRAMS...220 servicing the outer ring 146")

and a second processing 10 unit (21) (see Figure 3, 255, 215,225) for processing (see column 7 lines 11-16 "packets maybe routed ...into line card and into lookup block...Local traffic may be forwarded to the host via output 283. Transit traffic may be forwarded to and stored in ...225") information signals (see column 6 lines 14-16 "Data") received via the second communication path

(20) (see Figure 3, 121 and column 7 lines 11-14 " data is received...along transmission media 121 of inner ring 126") and/or for generating ( see column 7 lines 16-18 "SRPF block...may arbitrate between the transit traffic stored in SRAM"; SRAM 225 produces traffic to the SRPF) and sending (see column 8 lines 34-37 "SRAMS...225 servicing the...inner ring 126" ) information signals (see column 7 lines 34-37 "transit traffic") via the second communication path (see column 8 lines 34-37 "inner ring 126"),

and furthermore, a first activatable coupling (see Figure 3, 235, 504b ) is located in the participant (see Figure 3, 132) between (see Figure 3, 235 is between 140, 141 and 121, 120 and column 9 lines 35-37 "location of the wrap paths...may be modified") the first communication path (see Figure 3, 140) and the second communication path (20) (see Figure 3, 121), such that upon activation ( see column 8 lines 24-26 "SRPF 235 processes") of the first activatable coupling (see Figure 3, 235, 504b ), information signals (see column 8 lines 21-27 "transit traffic") are picked up (see column 8 lines 21-

27 "flowing out of multiplexer...into SRPF 235") from the first communication path (10) (see Figure 3, 140) and delivered (see column 8 lines 21-27 "SRPF 235 processes the wrapped data" and column 6 lines 45-46 "SRPF fairness logic is a transmission protocol" and Figure 3, "Inner Fwd") to the second communication path (see Figure 3, 120) (20), the delivery (see Figure 3, 504b) to the first activatable coupling see Figure 3, 235, 504b ) in the participant (1) ) (see Figure 3, 132) being located downstream (see Figure 3, 235, 225,215, 255; 235 is downstream of 225,215,255) in the signal travel direction (see Figure 3, 235, 225, 215,255; note arrow connecting the components") of the processing unit (2 1) (see Figure 3, 225,215,255) of the second communication path (20) (see Figure 3, 121),

For claim 6, Uzun discloses wherein a second activatable coupling (23, 12) (see Figure 3, 230, 501b) is also located in the participant (see Figure 3, 132) , between (see Figure 3, 230 is between 140, 141 and 121, 120 and column 9 lines 35-37 "location of the wrap paths...may be modified") the first communication path (10) (see Figure 3, 140) and the second communication path (20) (see Figure 3, 120, 121) , such that upon activation ( see column 8 lines 24-26 "SRPF 235 processes") of the second activatable Coupling (see Figure 3, 230, 501b), information signals (see column 7 lines 28-30 "data") are picked up (see Figure 3, 501b) from the second communication path (20) (see Figure 3, 121, 120) and delivered (see Figure 3, 501b delivers to SRPF 230) to the first communication path (lo) (see Figure 3, 140,141), and
wherein the delivery (see Figure 3, 501b; note arrow and column 7 lines 24-26 "data wrap paths") to the second activatable coupling (see Figure 3, 230, 501b) is located

downstream (see Figure 3, 230, 220,210, 250, ; 230 is downstream from 220,210,250) in the signal travel direction (see Figure 3, 250,210,220,230;note arrows) of the processing unit (1 1) (see Figure 3, 250,210,220) of the first communication path (lo) (see Figure 3, 140)

and furthermore, the pickup (see Figure 3, 501b sends signal to 230) of the second activatable coupling (see Figure 3, 230, 501b) is expediently located downstream (see Figure 3, 501b is located downstream of 225, 215,255) in the participant (see Figure 3, 132) in the signal travel direction (see Figure 3, note arrows between 245,236,235,225,215, and 255) of the processing unit (see Figure 3, 225,215, 255) of the second communication path (20) (see Figure 3, 121, 120).

For claim 7, Uzun discloses wherein the second activatable coupling (see Figure 3, 230, 501b) includes an intermediate connecting line (23) (see Figure 3, 501b) for connecting (see Figure 3b, 501b, 501b bridges ring 121 to 141) the second communication path (20) (see Figure 3, 121,120) to the first communication path (10) (see Figure 3, 140,141) and a second switchover element (22) (see Figure 3, 230), inserted into both the intermediate connecting line (see Figure 3, 501b terminates into 230) and the first communication path (see Figure 3, 140) (lo),

For claim 8, Uzun discloses wherein one receiver (see Figure 3, 250, 255) per communication path (see Figure 3, 250 for 140 and 255 for 120), preferably an optical receiver (see column 5 lines 5-7 "SONET framers"), is provided in the participant (see Figure 3, 250 and 255 are in 132) for receiving (see column 6 lines 18-19 "packets may

be routed through physical layer") and coupling in the information signals (see column 6 lines 18-19 "packets may be routed through physical layer into line card 200") from the communication path (see Figure 3, 140 or 120) into the participant (see Figure 3, 132, 200)

For claim 10, Uzun discloses wherein the participant (see Figure 3, 132)) is a secondary participant (1 ', 1") (see column 4 line 33 "node B" and Figure 2a, "B") of the communication system (see column 4 lines 26-27 "bi-directional ring topology network").

For claim 11, Uzun discloses wherein the participant (see Figure 2a "Central Node") is a central participant (lz) (see Figure 2a, "Central Node") of the communication system (see column 4 lines 26-27 "bi-directional ring topology network").

For claim 15, Uzun discloses a communication system (5) (see column 4 lines 26-27 "bi-directional ring topology network") for directed communication (see column 4 lines 50-53 "connectd to branch nodes 131-135" and column 4 lines 57-59 "inner and outer rings...transport data") between participants (see column 4 lines 50-52 "130...nodes 131-135" ) of the communication system (see column 4 lines 26-27 "bi-directional ring topology network"), having one central participant (see column 4 lines 50-52 "central node 130") (lz) and at least one secondary participant (l', I") (see column 4 lines 50-52

"nodes 131-135"), wherein at least one of the participants (see column 4 lines 50-52 "nodes 131-135") is embodied in accordance with claim 1 (see above)

For claim 16, Uzun discloses wherein the communication system (see column 4 lines 26-27 "six-node bidirectional ring topology") is embodied with double-ring topology (see column 4 lines 26-27 "six-node bidirectional ring topology" and Figure 2a, 101), with two communication paths (10,20), (see Figure 2a, 146,126) each annularly closed (see Figure 2a, 146,126).

For claim 17, Uzun discloses wherein the information signal (see column 4 lines 55-54 "data") travel (see column 4 lines 57-60 "Inner and outer rings...may concurrently transport data in opposing directions") in the two communication paths (see Figure 2a, 126, 146) is effected in contrary directions (see Figure 2a, 126, 146; not arrows and see column 4 lines 57-60 "Inner and outer rings...may concurrently transport data in opposing directions").

Uzun is silent about:

As regarding claim 1, the processing unit (1 l,21) checks the input signal for its presence, and one phase locked loop per communication path is provided in the participant (1) for phase preparation of the received information signal.

As regarding claim 7, the second switchover element (12) is expediently a multiplexer with two inputs and one output, and the inputs are selectively switchable to the output.

Karbowiak et al. from the same or similar field of endeavor discloses a double ring system with the following features:

As regarding claim 1, Karbowiak discloses wherein the processing unit (1 1,21) (see Figure 17 , 91, 92, 93, 12) checks the input signal (see column 4 lines 65-67 "synchronization signals") for its presence (see column 4 lines 65-67 "detect a loss of synchronization signals"), and one phase locked loop (see Figure 18, 107 and column 18 lines 19-23 "phase locked loops") is provided (see Figure 17 , 92) in the participant (1) (see Figure 1, "NODE" ,11,12,13) for phase preparation (see column 18 lines 39-44 "PLLs...absorb phase jitter" and column 19 lines 5-9 "PLL...maintain a stead-state phase error which will absorb ") of the received information signal (see Figure 17; 96 and Figure 18, "LINE SIGNAL").

As regarding claim 7, Karbowiak discloses the second switchover element (12) (see Figure 20, 121) is expediently a multiplexer (see Column 28 lines 62-65 "multiplexors 121") with two inputs (see column 28 lines 62-65 "two-input") and one output (see Figure 3, 121 ; note one output), and the inputs are selectively switchable (see column 28 lines 62-67 "allow selection") to the output (see column 62-67 "signal transmitted").

Lida et al from the same or similar field of endeavor discloses and interface with the following features:

As regarding claim 1, Lida discloses one phase locked loop (see section 0158 lines 11-12 " PLL") per communication path (see section 0158 lines 11-12 "per channel").

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Uzun, by using the features, as taught by Lida et al and Karbowiak et al., in order to for each node to participate in maintenance of the system control scheme (see Karbowiak column 1 lines 60-68) and to provide mutual clock synchronization between adjacent nodes in a ring during failure (see Karbowiak column 2 lines 10-12); and in order to "detect and correct an error in a word received in a data receiver (see Lida section 0011).

15. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uzun (US 7,142,504) in view of over Karbowiak et al. ( US 4,663,748) and Lida et al (US 2006/0153116) as applied to claim 1, further in view of McCool et al (US 4,951,280).

For claim 9, the claimed invention is described as in paragraph 14.

Uzun, Karbowiak and Lida are silent about:

As regarding claim 9, wherein one decoupling unit per communication path, preferably alight-emitting diode with a trigger circuit, is provided in the participant for decoupling the information signals from the participant into the communication path.

McCool from the same or similar field of endeavor discloses a apparatus for configuring data paths with the following features:

As regarding claim 9, McCool discloses wherein one decoupling unit (see column 8 lines 54-57 "fiber optic transmitter") per communication path (see Figure 1, 42,34,44,32)

preferably a light-emitting diode (see column 8 lines 54-57 "LED") with a trigger circuit (see column 8 lines 42-44 "comparator"), is provided in the participant for decoupling the information signals (see column 8 lines 54-57 "differential signal") from the participant (see column 1 lines 20-23 "station") into the communication path (see column 8 lines 54-57 "fiber optical cable").

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Uzun (US 7,142,504) ,Karbowiak et al. ( US 4,663,748) and Lida et al, by using the features, as taught by McCool, in order to provide an apparatus for easily configuring a dual-ring and providing modules which provide a flexible architecture for configuring and reconfiguring LAN stations (see column 3 lines 4-13);.

16. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uzun (US 7,142,504) in view of over Karbowiak et al. ( US 4,663,748) and Lida et al (US 2006/0153116) as applied to claim 1, further in view of Moriyama et al. (US 4,516,121).

For claim 12 the claimed invention is described in paragraph 14.

Uzun, Karbowiak and Lida are silent about:

As regarding claim 12, wherein the participant is integrated into an actuator and/or a sensor, preferably into a drive control unit, and especially preferably into a dnve control unit of a control motor.

Moriyama et al from the same or similar field of endeavor discloses a transmission control system with the following features:

As regarding claim 12, Moriyama discloses wherein the participant (see column 2 lines 19 "left terminal"), is integrated into an actuator (see column 2 lines 9-15 "automobile"), preferably into a drive control unit (see column 2 lines 24-25 "control devices" and Figure 2, 217, 215 and column 2 lines 44-46 " 215 a motor...217 a motor"), and especially preferably into a drive control unit (see column 2 lines 24-25 "control devices" and Figure 2, 217, 215 and column 2 lines 44-46 " 215 a motor...217 a motor") of a control motor (see column 2 lines 24-25 "control devices" and Figure 2, 217, 215 and column 2 lines 44-46 " 215 a motor...217 a motor").

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Uzun (US 7,142,504) ,Karbowiak et al. ( US 4,663,748) and Lida et al, by using the features, as taught by Moriyama et al., in order to provide a transmission control system which does not fail as a whole syste eve inf a part of the system fails, through a predetermined order transmission (see column 1 lines 31-50);.

17. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uzun (US 7,142,504) in view of over Karbowiak et al. ( US 4,663,748) and Lida et al (US 2006/0153116) as applied to claim 1, further in view of Regula (US 6,400,682).

For claim 13, the claimed inventions is disclosed in paragraph 14.

Uzun, Karbowiak and Lida are silent about:

As regarding claim 13, wherein the input signal of a participant is checked for its presence by means of an edge detection in the participant.

Regula from the same or similar field of endeavor discloses a dual counter-rotating ring with the following features:

As regarding claim 13, Regula discloses wherein the input signal (see column 14 lines 52-54 "data signal") of a participant (see column 5 lines 25-29 "node's) is checked for its presence (see column 14 lines 52-54 "detection") by means of an edge detection (see column 14 lines 52-54 "edge detection") in the participant (see column 5 lines 25-29 "node's).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Uzun (US 7,142,504) ,Karbowiak et al. ( US 4,663,748) and Lida et al, by using the features, as taught by Regula, in order to provide fault tolerant interconnection that allows automatic detecting of failures and replaces nodes while the interconnection is operating (see column 2 lines 37-49).

18. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uzun (US 7,142,504) in view of over Karbowiak et al. ( US 4,663,748) and Lida et al (US 2006/0153116) as applied to claim 1, further in view of Yasue (US 4,594,709).

For claim 14, the claimed invention is described in paragraph 14.

Uzun, Karbowiak and Lida are silent about:

As regarding claim 14, wherein if a signal is absent at its input, a participant generates a zero-bit current for subsequent participants.

Yasue from the same or similar field of endeavor disclose a loop transmission system with the following features:

As regarding claim 14, Yasue discloses wherein if a signal is absent (see column 10 lines 41-42 "transmission path 24 in the first loop fails") at its input (see Figure 2, 18-32), a participant generates (see column 10 lines 56-57 "sent out") a zero-bit (see column 10 lines 56-57 "all-Zero data") current for subsequent participants (see column 10 lines 56-57 "senet out to the first loop " and column 12 lines 8-10 "propagates sequentially through the second loop down ").

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Uzun (US 7,142,504) ,Karbowiak et al. ( US 4,663,748) and Lida et al, by using the features, as taught by Yasue, in order to be able to wrap traffic onto a second ring without paying attention to a particular device (master station) and to construct a turn loop with excluding faulty portions (see column 2 lines 24-33 and column 1 lines 35-42);.

19. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uzun (US 7,142,504) in view of over Karbowiak et al. ( US 4,663,748) and Lida et al (US 2006/0153116) as applied to claim 1, further in view of Kinoshita et al. (US 7,283,740).

For claim 18, the claimed invention is described in paragraph 14.

Uzun, Karbowiak, and Lida are silent about:

As regarding claim 18, wherein the participants are connected to one another via optical waveguides

Kinoshita from the same or similar field of endeavor discloses a with the following features:

As regarding claim 18, Kinoshita discloses wherein the participants (Figure 1, 12) are connected to one another (see Figure 1, 16 and 18) via optical waveguides (see column 7 lines 35-37 "planar waveguide").

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Uzun (US 7,142,504) ,Karbowiak et al. ( US 4,663,748) and Lida et al, by using the features, as taught by Kinoshita, in order to separate reuse gateways, thus providing a network with low cost and high capacity and to provide fine granularity between metro access an metro core environments (see column 1 line 55 through column 2 line 6).

20. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uzun (US 7,142,504) in view of over Karbowiak et al. ( US 4,663,748) and Lida et al (US 2006/0153116) as applied to claim 1, further in view of Trussell et al (US 4,539,655).

For claim 19, the claimed invention is described in paragraph 14.

Uzun, Karbowiak, and Lida are silent about:

As regarding claim 19, wherein the communication system is a decentralized control system, having a master slave structure, preferably for controlling and regulating a plurality of control motors.

Trussell et al from the same or similar field of endeavor discloses a with the following features:

As regarding claim 19, wherein the communication system (see Figure 1, 10) is a decentralized control system (see Figure 1, 14, NODE 1-3; nodes are connected), having a master slave structure (see column 3 lines 10-12 "master" and column 6 lines 2-4 "NCM can be...slave" and column 6 lines 14-16 "slave modules"), preferably for controlling (see column 2 lines 37-38 "controls") and regulating (see column 2 lines 37-38 "controls") a plurality of control motors (see column 2 lines 37-38 "motor controls").

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the system of Uzun (US 7,142,504) ,Karbowiak et al. ( US 4,663,748) and Lida et al, by using the features, as taught by Trussell et al, in order to provide a microcomputer based monitoring and communication syste (see column 1 lines 52-65).

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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|---|---|---|---|
| US-4,536,876 A | 08-1985 | Bahr et al. | 370/453 |
| US-4,553,233 A | 11-1985 | Debuysscher et al. | 370/224 |
| US-4,815,069 A | 03-1989 | Nakayashiki et al. | 370/224 |
| US-6,892,329 B2 | 05-2005 | Bruckman, Leon | 714/43 |
| US-7,263,062 B2 | 08-2007 | Chikazawa et al. | 370/224 |

The above are referenced to show systems of double ring topologies.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenan Cehic whose telephone number is (571) 270-3120. The examiner can normally be reached on Monday through Friday 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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